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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,486	12/22/2000	Daniel Grobe Sachs	042390.P10420	8985

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EXAMINER	
NGUYEN, TOAN D	
ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/746,486	SACHS ET AL.	
	Examiner	Art Unit	
	Toan D Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1, 6-11, 16-21 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls (US 5,983,382) in view of Gerendai et al. (US 6,629,285).

For claims 1, 6-7, 16-17 and 25-26, Pauls discloses automatic retransmission query (ARQ) with inner code for generating multiple provisional decodings of a data packet, comprising:

applying a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (figure 1, col. 4 lines 60-65);

transmitting the data packets, and transmitting a set of corresponding parity packets after the data packets have been sent (col. 4 lines 60-65);

sending an acknowledgment in response to one or more of a number of correctly received data packets equals to a total number of data packet (col. 3 lines 18-22), and

the number of correctly received packets equals the total number of data packets multiplied by a predetermined constant (col. 3 lines 30-37).

However, Pauls does not disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets; and

in response to not receiving the acknowledgment, continuing to transmit the parity packets. In an analogous art, Gerendai et al. disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets (col. 1 lines 33-34); and

in response to not receiving the acknowledgment, continuing to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

Pauls discloses in claims 6, 16 and 25, wherein the sending of the acknowledgment in response to the number of correctly received data packets equaling to total number of data packets (col. 3 lines 18-22). However, Pauls does not expressly disclose a Reed-Solomon (RS) code. Gerendai et al. disclose the number of correctly received data packets equaling to total number of data packets is performing via a Reed-Solomon (RS) code (col. 3 lines 60-63 as set forth in claim 6, 16 and 25).

Pauls discloses in claims 7, 17 and 26, wherein the sending of the acknowledgment in response to the number of correctly received data packets equaling to total number of data packets multiplied by the predetermined constant (col. 3 lines 30-37). However, Pauls does not expressly disclose a Tornado code. Gerendai et al. disclose the number of correctly received data packets equaling to total number of data packets multiplied by the predetermined constant is performed via a Tornado code (col. 4 lines 10-12 as set forth in claims 7, 17 and 26).

One skilled in the art would have recognized in response to receiving the acknowledgement, ceasing to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (col. 1 lines 22-23),

For claims 8, 18 and 27, Pauls discloses wherein transmitting the group of packets includes interleaving and transmitting a second and separate group of data packets (figure 3, col. 6 lines 52-54).

For claims 9 and 19, Pauls discloses wherein the receiver sends multiple acknowledgement signals for a group of packets (figure 4, col. 7 lines 11-16).

For claims 10 and 20, Pauls discloses further includes manipulating the number of parity packets in response to data included in the acknowledgement (col. 4 lines 61-65).

For claim 11, Pauls discloses automatic retransmission query (ARQ) with inner code for generating multiple provisional decodings of a data packet, comprising:

apply a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (figure 1, col. 4 lines 60-65);

transmit the data packets, and transmitting a set of corresponding parity packets after the data packets have been sent (col. 4 lines 60-65);

sending an acknowledgment in response to one or more of a number of correctly received data packets equals to a total number of data packet (col. 3 lines 18-22), and

the number of correctly received packets equals the total number of data packets multiplied by a predetermined constant (col. 3 lines 30-37).

However, Pauls does not disclose:

in response to receiving the acknowledgement, cease to send additional parity packets; and

in response to not receiving the acknowledgment, continue to transmit the parity packets.

In an analogous art, Gerendai et al. disclose:

in response to receiving the acknowledgement, cease to send additional parity packets (col. 1 lines 33-34); and

in response to not receiving the acknowledgment, continue to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

One skilled in the art would have recognized in response to receiving the acknowledgement, cease to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (col. 1 lines 22-23).

For claim 21, Pauls discloses automatic retransmission query ARQ with inner code for generating multiple provisional decodings of a data packet, comprising:

an encoder (figure 1, reference 12) to apply a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (col. 4 lines 31-32 and col. 4 lines 60-65);

a transmitter (figure 1, reference 10) to transmit the data packets to a receiver (figure 1, reference 30) over a network, transmit a set of corresponding parity packets (col. 4 lines 60-61); and

sending an acknowledgment in response to one or more of a number of correctly received data packets equals to a total number of data packet (col. 3 lines 18-22), and

the number of correctly received packets equals the total number of data packets multiplied by a predetermined constant (col. 3 lines 30-37).

a receiver (figure 1, reference 30) to receive the positive acknowledgement signal (figure 4, reference step 106, col. 7 lines 14-16).

However, Pauls does not disclose wherein in response to receiving the acknowledgement, the transmitter ceases to send additional parity packets; and in response to not receiving the acknowledgment; continuing to transmit the parity packets. In an analogous art, Gerendai et al. disclose wherein in response to receiving the acknowledgement, ceasing to send additional parity packets (col. 1 lines 33-34); and in response to not receiving the acknowledgment, continuing to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

One skilled in the art would have recognized in response to receiving the acknowledgement, ceasing to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (col. 1 lines 22-23).

4. Claims 2-3, 12-13, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls (US 5,983,382) in view of Gerendai et al. (US 6,629,285) further in view of Luby (US 6,307,487).

For claims 2-3, Pauls in view of Gerendai et al. does not disclose the claimed invention. In an analogous art, Luby discloses wherein the data packets include multi-media data packets, and the transmitting includes transmitting over a wireless network (figure 23, col. 8 line 64 to col. 9 line 5 and col. 28 lines 53-56 as set forth in claim 2);

wherein transmitting the multi-media data packets includes multi-media streaming over an Internet Protocol (IP) network (col. 3 lines 9-10 as set forth in claim 3);

One skilled in the art would have recognized data packets include multi-media data packets to use the teachings of Luby in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the data packets include multi-media data packets as taught by Luby in Pauls' system with the motivation being to use chain reaction coding, the application-specific parameters, such as the input symbol size (col. 9 lines 9-10).

For claims 12 and 13, the claims are directed to the same subject matter as in claims 2-3. Therefore, they are subject to the same rejection.

For claim 22, the claim is directed to the same subject matter as in claim 3. Therefore, it is subject to the same rejection.

5. Claims 4-5, 14-15, 23 and 24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Pauls (US 5,983,382) in view of Gerendai et al. (US 6,629,285) and Luby (US 6,307,487) further in view of Brown et al. (US 6,366,622).

For claims 4, 14 and 23, Pauls in view of Gerendai et al. and Luby does not disclose wherein the multi-media streaming includes streaming via IEEE 802.11 standard over a wireless network. In an analogous art, Brown et al. disclose wherein the multi-media streaming includes streaming via IEEE 802.11 standard over a wireless network (col. 3 line 12, as set forth in claims 4, 14 and 23).

Pauls in view of Gerendai et al. does not expressly disclose wherein the multi-media streaming includes suppressing physical layer acknowledgements via

multicasting IP addresses in claims 5, 15 and 24. In an analogous art, Luby discloses wherein the multi-media streaming includes suppressing physical layer acknowledgements via multicasting IP addresses (col. 1 lines 54-57 as set forth in claims 5, 15 and 24). One skilled in the art would have recognized the multi-media streaming includes suppressing physical layer acknowledgements via multicasting IP addresses to use the teachings of Luby in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the multi-media streaming includes suppressing physical layer acknowledgements via multicasting IP addresses as taught by Luby in Pauls' system with the motivation being used for data transport (col. 1 line 56).

One skilled in the art would have recognized IEEE 802.11 standard over a wireless network to use the teachings of Brown et al. to the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the IEEE 802.11 standard.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER